REMARKS/ARGUMENTS

The applicant acknowledges, with thanks, the Office Action dated September 16, 2008. Examiner's consideration of applicant's arguments filed on June 12, 2008, is noted with appreciation. Claims 1-20 are currently pending.

Claims 14 and 16-18 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claims 1-2 and 13-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,299,239 to Basu et al. (*hereinafter*, "Basu") in view of U.S. Patent No. 6,845,375 to Sinclair (*hereinafter*, "Sinclair"). Claims 3-6, 8-9, and 11-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Basu in view of Sinclair, and further in view of U.S. Patent No. 6,965,891 to Jakobsson et al. Claims 7 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Basu in view of Sinclair, in view of Jakobsson, and further in view of U.S. Patent No. 5,664,172 to Antoshenkov.

In view of the arguments set forth below, it is submitted that all pending claims recite statutory subject matter and are patentably distinct over the art of record.

The Non-Art Rejections

Claims 14 and 16-18 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. The Examiner took the position in the Office Action "[t]he claims lack the necessary physical articles or objects to constitutes a machine or a manufacture within the meaning of 35 U.S.C. §101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material *per se*." The Examiner took the further position that "the claims are directed towards a database" and that "there is no processing occurring on the database" and thus, according to the Examiner, "it is a data structure."

Applicant respectfully disagrees that claims 14 and 16-18 are directed to non-statutory subject matter. As the Examiner pointed out, when functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Although applicant does not necessarily concede that claims

14 and 16-18 are directed only to functional descriptive material, independent claim 14 clearly recites a fragmented database embodied in a computer-readable storage medium. Thus, even if the claimed fragmented database is merely functional descriptive material (which applicant does not concede), it is "recorded on some computer-readable medium" and therefore is or has become "structurally and functionally interrelated to the medium." Therefore, the claim is statutory at least because use of the technology permits the function of the alleged descriptive material to be realized.

In addition to the above, the Examiner took the position that "no query processing is actually occurring in claim 14" and "[t]hus, it is a data structure." Without conceding either that no query processing is actually occurring in claim 14 or that the claim is directed to a data structure, the Examiner has not articulated a position or made any arguments in the record wherein the claim could be considered as being directed to an abstract idea. The Examiner cited the proposition that "[m]erely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory." However, the Examiner has not stated a clear position or reason in the record that claim 14 is merely directed to an "abstract idea." In fact, it is to be pointed out that the Examiner referred to these claims in the Office Action as being directed to a "data structure" as noted herein.

In accordance with the above, therefore, it is respectfully submitted that independent claim 14 and claims 16-18 recite statutory subject matter and are in condition for allowance under 35 U.S.C. §101.

The Art Rejections

Claims 1-2 and 13-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Basu in view of Sinclair. Claims 3-6, 8-9, and 11-12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Basu in view of Sinclair, and further in view of Jakobsson. Claims 7 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Basu in view of Sinclair, in view of Jakobsson, and further in view of Antoshenkov.

The major thrust of the Examiner's position with regard to the patentability of the independent claims is that Basu teaches most of the subject matter recited in those claims except

for the portion reciting "defining a range of a fragmentation dimension basic function of one or more database fields." However, according to the Examiner, Sinclair teaches "defining a range of a fragmentation dimension basic function of one or more database fields." Further, according to the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Basu by the teachings of Sinclair because, according to the Examiner, Sinclair teaches that "in some situations, particular portions of the data in a table are searched more often than other portions. If the data is properly organized, performance can be improved by searching a part of the data for queries that can take advantage of that organization."

Applicant respectfully disagrees with the Examiner for several reasons including the reason that Basu and Sinclair are not combinable and, in particular, they are not combinable in the manner as suggested by the Examiner. Essentially, the fragmentation scheme taught in Basu is "tiered" or "hierarchical" in nature whereas fragmentation scheme taught in Sinclair is "flat" in nature. In Basu, each of the sets of 2nd level partitions is drawn from or is derived from a different but singular one of the sets of the 1st level partitions. That is, a database is first divided into a plurality of sets of 1st level partitions. Then each of the 1st level partition sets is singularly further partitioned into sets of 2nd level partitions. As this is the case, the first set of 2nd level partitions is drawn only from the first 1st level partition, the second set of 2nd level partitions is drawn only from the second 1st level partition, and so on. Specifically, as set out in Basu at column 4, line 67 – column 5, line 6:

> FIG. 1 illustrates table 100 that has been partitioned using range-based partitioning at the first level, and list-based partitioning at the second level. At a first level, table 100 has been partitioned using range-based partitioning on the first level partitioning key "date". At the second level, each partition created at the first level has been partitioned using list-based partitioning on the second level partitioning key "areacode".

However, in Sinclair, the partitioning is essentially "flat" as described at column 3, lines 53-67 wherein:

> The table 300 is created with a command that includes a specification of the primary index, as the first column 302, a first partition function that is evaluated using values from the second column 304, and a second partition function that is evaluated using values from the third column 306. Functions are also referred to as expressions, but will be referred to as functions herein. One possible partition function would be a range function. If the second column 304 contained dates between 1996 and 2001, the partition function could be the difference between the year of the date and 1995, resulting in values of 1 through 6. A single partition function, like a primary index, can include more than one column. For example, a partition function could return the difference between the values in two date columns.

Accordingly, it is respectfully submitted that the combination of the teachings of Sinclair into those of Basu would undo and distort the scheme of Basu so as to render it useless because Sinclair does not recognize the hierarchical partitioning needed in Basu. The forced combination of the flat scheme of Sinclair into the hierarchical scheme of Basu is unpredictable. Essentially, therefore, it is respectfully submitted that the combination of the teachings of Sinclair into those of Basu is technically improper. It is further respectfully submitted that one of ordinary skill in the art would not be inclined to make the combination in part because of the unpredictable nature of the result(s).

It is further respectfully submitted that the combination of the teachings of Sinclair into those of Basu is improper as it is made in hindsight using applicant's claims as a template. There is no motivation for one of ordinary skill in the art a the time of the invention to combine the teachings of Sinclair with those of Basu so that "performance can be improved by searching a part of the data for queries that can take advantage of that organization (of the combination of Sinclair with Basu)" because, again, the combination is improper.

Therefore, it is respectfully submitted that all pending claims are novel, patentable, and unobvious over the art of record including the teachings of Basu and Sinclair separately and in their combination.

Allowance of all claims and an early notice to that effect is respectfully requested.

If there are any fees necessitated by the foregoing communication, the Commissioner is hereby authorized to charge such fees to our Deposit Account No. 09-0460, referencing our Docket No.11517/00008.

Respectfully submitted,

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Michael E. Hudzinski
Registration No. 34,185
TUCKER ELLIS & WEST LLP
1150 Huntington Bldg.
925 Euclid Ave.
Cleveland, Ohio 44115-1414
Customer No.: 46158
Tel.: (216) 696-4885
Fax: (216) 592-5009